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- Language Code: ENG01, Purpose: publication, Format: 1colA

General—

Electronic Vend Washer-extractor Models MCS10HXCR and MCS10HXCS

0020504578

PELLERIN MILNOR CORPORATION POST OFFICE BOX 400, KENNER, LOUISIANA 70063 - 0400, U.S.A.

Applicable Milnor® products by model number:

MCS10HXCR MCS10HXCS

8. The machine turns in the counter-clockwise direction at 1000 revolutions per minute for 60 seconds.
9. The test procedure ends. The first and second place of *Amount* window show *Ed*.

— End of BIQUUT01 —

4.2.2.1. How to Start the Automatic Test Procedure

Tip: If a problem interrupts the automatic test, push the *Start* button to start the test where it stopped.

1. Push the *Start* button to start the automatic test procedure.
2. Automatically do a check of the door lock.
   a. All indicators on 3 seconds, then off.
   b. The *Amount* window shows *88*.
   c. The *Minutes* window shows *E1* if the door lock fails.
3. Automatically do a check of the water valves and the water level sensor.
   a. The *Amount* window shows *77*.
   b. Open the hot water valve for 5 seconds.
   c. Open the primary water valve for 5 seconds.
   d. Open the rinse water valve for 5 seconds.
   e. Open the softener water valve for 5 seconds.
   f. If the machine does not fill to the necessary water level in 2 minutes, the *Minutes* window shows *E5*.
4. Automatically do a check of the drain pump.
   a. The *Amount* window shows *66*.
   b. Turn the drain pump on for 2 minutes.
   c. If the machine is not empty in 2 minutes, the *Minutes* window shows *E2*.
5. Automatically do a check of the drive motor.
   a. The *Amount* window shows *55*.
   b. The machine turns at 90 revolutions per minute for 10 seconds.
   c. The machine turns at 1000 revolutions per minute for 30 seconds.
6. The automatic test procedure ends. The *Amount* window shows *Ed*(End).
7. Turn the power to the machine off.
8. The machine is in standby mode when you turn power to the machine on.

4.2.2.2. The Test Procedure for the Motor and the Noise Level

1. Put the machine in the test mode.
2. Push the *Select* button one time. The drain pump starts for 2 minutes. If necessary, push the *Select* button to stop the drain pump and continue the test procedure.
3. The motor starts. The machine turns in the clockwise direction at 50 revolutions per minute for 5 seconds.
4. The motor stops for 10 seconds.
5. The motor starts. The machine turns in the counter-clockwise direction at 50 revolutions per minute for 5 seconds.
6. The machine turns in the counter-clockwise direction at 93 revolutions per minute for 5 seconds.
7. The machine turns in the counter-clockwise direction at 200 revolutions per minute for 10 seconds.

Preface

BIQUUK01 (Published) Book specs- Dates: 20090428 / 20090428 / 20090428 Lang: ENG01 Applic: QUU

i. About This Manual

This document uses Simplified Technical English.
Learn more at http://www.asd-ste100.org.

i. 1. Scope

This manual gives instructions and specifications for Milnor® washer-extractors that have these model numbers:

- Visionex™ Model MCS10HXCR
- Visionex™ Model MCS10HXCS

i. 2. If this Manual Does Not Have the Necessary Data [Document BIUUUD17]

This manual has the best data that was available when your machine was made. If you cannot find the necessary data:

- **Are you looking for data about a component not made by Milnor® but used on your machine—for example, a motor or a brake caliper?** We usually do not put the instructions of component manufacturers in Milnor manuals. You can find some of these instructions in the part of the Milnor website that gives maintenance data (`http://www.milnor.com/tkbsearch18.asp`). You can also find instructions for many components on the manufacturers' websites.
- **Are you looking for data about a Milnor component on your machine that this manual does not give?** If we get better data or more data after the manual is available, we will add it to a newer version of the manual. Speak with the Milnor Customer Support group. They can give you newer instructions if they are available or help you if not.

i. 3. How to Get the Necessary Repair Components [Document BIUUUD19]

This document uses Simplified Technical English.
Learn more at http://www.asd-ste100.org.

You can get components to repair your machine from the approved supplier where you got this machine. Your supplier will usually have the necessary components in stock. You can also get components from the Milnor® factory.

Tell the supplier the machine model and serial number and this data for each necessary component:

- The component number from this manual
- The component name if known
- The necessary quantity

- The necessary transportation requirements
- If the component is an electrical component, give the schematic number if known.
- If the component is a motor or an electrical control, give the nameplate data from the used component.

To write to the Milnor factory:

Pellerin Milnor Corporation
Post Office Box 400
Kenner, LA 70063-0400
UNITED STATES

Telephone: 504-467-2787
Fax: 504-469-9777
Email: parts@milnor.com

i. 4. How to Identify this Manual and its Included Documents [Document BIUUUD13]

This document uses Simplified Technical English.
Learn more at http://www.asd-ste100.org.

Use the specifications on the front cover of this manual to identify this manual or the included documents. This section tells about these specifications.

Published manual number—The primary identification number for the manual.

Specified date—The first assembly date for the machine or change about which this manual gives data.

As-of date—The company makes new manuals about items that are not new. These new manuals will include data started before this date.

Access date—The date Milnor prepared the manual for its publication.

Depth—"Detail" manuals show the maximum available data. "Synopsis" manuals show the minimum necessary data. A manual with more data goes with a synopsis manual.

Custom—A value of "n/a" here shows that this manual applies to all machines identified on the inner front cover of the manual. Other values show the laundry name and a code for the specified machine.

Applicability—Each value here shows the machines or model numbers that this manual applies to. The inner front cover shows the full list of the applicable models. If this value is "not used," this manual has a different function.

Language Code—The value here shows the language and dialect of this manual. "Eng01" shows that the manual uses United States English.

Refer to a **document** in this manual with all of the specifications shown on the front cover. Replace the published manual number with the document number.

i. 5. Trademarks [Document BIUUUD14]

i. 5.1. Trademarks of Pellerin Milnor Corporation—These words are trademarks of Pellerin Milnor Corporation:

4. Do a check of the door seal for stains.
5. For the stains, use a solution that is 3/4 cup (175 milliliters) household bleach in 1 gallon (3.8 liters) of warm water.
6. Let the area dry for 5 minutes.
7. Use a dry cloth to remove remaining moisture.

— End of BIQUUM01 —

BIQUUT01 (Published) Book specs- Dates: 20090428 / 20090428 / 20090428 Lang: ENG01 Applic: QUU

4.2. How to Do Tests and Repair the Machine

4.2.1. The Error Codes

If the machine senses an error, the *Minutes* window flashes an error code for the condition. The *Machine Status* window flashes *E* to tell the customer about the error. The customer can remove the load from the machine if the *Machine Status* window flashes *U*.

Some error messages stop automatically when the problem stops. For other errors, the attendant must set the machine to operate again.

4.2.1.1. E1: The Door Lock Did Not Operate—The door latch did not operate correctly. There are three conditions at the same time:

- The door is closed.
- The machine is trying to lock the door.
- The machine sees that the door is not locked.

This error condition can occur when the machine has power after the safety time. Turn the machine off.

4.2.1.2. E2: The Machine Did Not Drain—Check if the drain pump did not work,or the lint filter was blocked,or excessive suds were in the cylinder.

4.2.1.3. E5: The Machine Did Not Fill—The tap did not open or water level did not reach the request. To prevent this error, do a check of the tap and the water inlet pressure. Also be sure that the screens in the inlet hoses are clear of contamination.

4.2.1.4. E6: The Inverter Sensed a Problem—The inverter had an error. When the basket turns, the machine does checks of the inverter. This error occurs if the controller does not see the input at all times. The controller stops the wash cycle and turns all machine outputs off. Turn the machine off.

4.2.1.5. EF: Inverter Communication Problem—The inverter did not communicate with the machine controller or the motor for 20 seconds. The controller stops the wash cycle and turns all machine outputs off. Turn the machine off.

4.2.2. How to Set the Machine to the Test Mode

1. Push the *Start* button while you turn the machine on.
2. The *Select* window shows *C* to tell you that the machine is prepared for the test procedures.

Figure 14: Drain Pump Filter

8. Replace the pump filter.
9. **Put the plug in the hose.**
10. Replace the hose in the clip.
11. Turn the machine on. Do a check for leaks.
12. Close the lower cover door. Replace the screw and the white plug.

4.1.3. The Door Seal

1. Open the machine door.
2. Remove all clothing and other goods from the machine basket.
3. The gray seal is between the door opening and the basket. Do a check of the area at the rear of the seal for objects (Figure 15).

Figure 15: Inspect the Door Seal

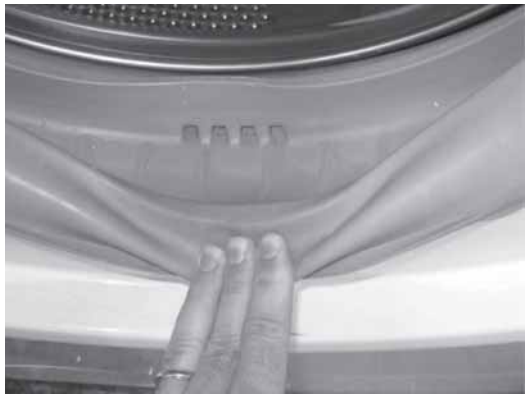


Table 1: Trademarks

CBW®	E-P OneTouch®	Gear Guardian®	Milnet®	RinSave™
E-P Express®	E-P Plus®	Mentor®	Milnor®	Staph-Guard®
	ExactXtract™	Mildata®	MultiTrac™	Visionex™

i. 5.2. Trademarks of Other Companies—These words are trademarks of other companies:

Table 2: Trademarks

Acronis®	IBM®	Microsoft Office XP®	Microsoft Access®	Siemens®
Atlas 2000®	Microsoft Windows 2000®	Microsoft Windows NT®	Microsoft Windows XP®	Seagate Crystal Reports®
		Yaskawa®		

— End of BIQUUK01 —

BIQUUS01 (Published) Book specs- Dates: 20090428 / 20090428 / 20090428 Lang: ENG01 Applic: QUU

ii. Safety for Milnor® MCS10_ Models

This document uses Simplified Technical English.
Learn more at http://www.asd-ste100.org.

ii. 1. General Safety Requirements

Notice 5: This document contains both general and specific warnings. The general warnings include those described from Section ii.1 through Section ii.1.3. Warnings about specific hazards and information about safe operating procedures appear from Section ii.2 to Section ii.5.4, and elsewhere in this manual.

Incorrect installation, neglected preventive maintenance, abuse, and/or improper repairs, or changes to the machine can cause unsafe operation and personal injuries, such as multiple fractures, amputations, or death. The owner or his selected representative (owner/employee) is responsible for understanding and ensuring the proper operation and maintenance of the machine. The owner/employee must familiarize himself with the contents of all machine instruction manuals. The owner/employee should direct any questions about these instructions to a Milnor® dealer or the Milnor® Service department.

ii. 1.1. Personnel—Train employee personnel what to do in case of emergencies. Inform personnel about hazard avoidance and the importance of care and common sense. Provide personnel with the safety and operating instructions that apply to them. Verify that personnel use proper safety and operating procedures. Verify that personnel understand and abide by the warnings on the machine and precautions in the instruction manuals.

ii. 1.2. Safety Devices

- Do not remove or stop safety devices on the machine or in the laundry.
- Keep all guards, covers, panels, and doors installed.
- Repair worn or broken safety devices before you operate the machine.

ii. 1.3. Maintenance

- Let only approved personnel do servicing on this machine.

- Examine the machine for indications of possible failure.
- Make the necessary repairs. Replace components before they become worn.

ii. 2. The Danger from a Rotating Cylinder

A tremendous amount of inertia is stored in the rotating cylinder of any washer-extractor, even at slow speeds. Washer-extractors are equipped with a **door interlock** designed to prevent opening the door if the cylinder is turning and to prevent starting the machine if the door is open.

The controller used on coin machine models in the Milnor® C4E line permits opening the door only during the first 60 seconds of the wash cycle, while the basket is turning in wash speed. If the door is opened, the drain valve opens immediately, the motor stops driving the basket, and—if the machine still has electric power—a brake is immediately applied to the basket. The wash program that was in progress when the door opened will resume where it was interrupted, and the door will lock after any time remaining on the door latch delay timer expires. The door locks immediately if the timer expires while the door is open and the door is subsequently closed.

DANGER 6: Entangle and Sever Hazards—Contact with goods being processed can cause the goods to wrap around your body or limbs and dismember you. The goods are normally isolated by the locked cylinder door.

- Do not put any part of your body in the machine while the basket is moving.
- Do not operate the machine with the door open.
- Do not attempt to open the door or reach into the cylinder until the cylinder is stopped.
- Do not touch goods inside or hanging partially outside the turning cylinder.
- Do not open the cylinder door with water in the cylinder.
- Do not tamper with or disable any safety device or operate the machine with a malfunctioning safety device. Request authorized service.
- Do not operate the machine with a malfunctioning door interlock.

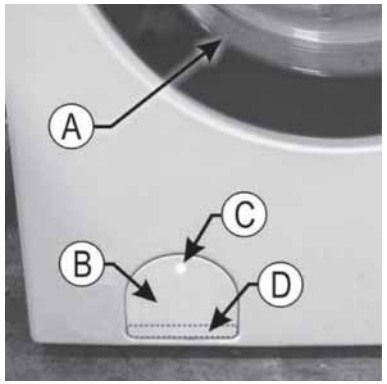
ii. 3. The Danger from Processing with Flammable Materials

Washer-extractors are manufactured specifically for use with water, **not with any type of solvent nor with any other material that might be flammable**. They are not suitable for any type of solvent cleaning process.

DANGER 7: Explosion and Fire Hazards—Flammable substances can explode or ignite in the cylinder, drain trough, or sewer. The machine is designed for washing with water, not any other solvent. Processing can cause solvent-containing goods to give off flammable vapors.

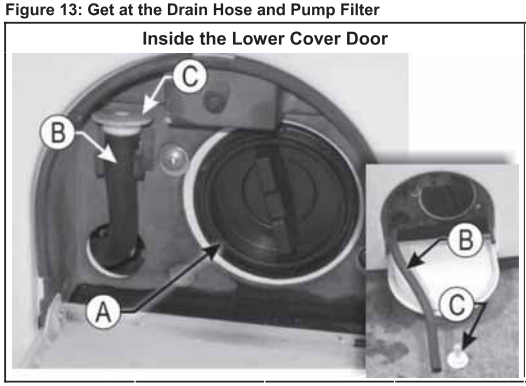
- Do not use flammable solvents in processing.
- Do not load machine with goods containing dry cleaning materials.
- Do not use the machine in the presence of solvent fumes.

Figure 12: Lower Cover Door



a. Pry the white plug (Figure 12, Item C) out of the hole.
b. Remove the screw under the white plug.
c. Push the bottom of the cover door (Figure 12, item D) to get at the drain hose and pump filter.

Figure 13: Get at the Drain Hose and Pump Filter



3. Put the end of the drain hose in a bucket.
4. Remove the plug from the drain hose. Water will come out.
5. Turn the drain pump filter to loosen it. Water will come out.
6. When no water comes out the drain hose or the pump filter, remove the pump filter.
7. Remove all objects from the pump filter.

Chapter 4
How to Test and Repair the Machine

BIQUUM01 (Published) Book specs- Dates: 20090428 / 20090428 / 20090428 Lang: ENG01 Applic: QUU

4.1. How to Keep the Machine Clean

This document uses Simplified Technical English.
Learn more at http://www.asd-ste100.org.

Use only HE (high-efficiency) detergent in this machine. To let the machine dry, do not fully close the door.

4.1.1. The External Parts

Use a soft cloth or a sponge to remove spilled liquids. Clean the machine frequently to keep it clean.

Notice 24: Prevent damage to the paint and other parts—Clean the machine with soap and water only.

- Do not use abrasive cleaners or abrasive applicators.

4.1.2. The Drain Pump Filter

The drain pump filter collects threads and small objects. Clean the filter frequently to let the machine drain quickly.

CAUTION 25: Avoid Burns—This procedure releases a small amount of water from the machine.

- Let the water in the machine become cool before you open the drain pump filter.

1. Turn the machine off.
2. Open the lower cover door.

ii. 4. The Danger from Operating with Guards or Covers Removed

Like other types of industrial equipment, Milnor® washer-extractors utilize **high voltage electrical power** to drive many **moving parts**. As previously stated, the washer basket acquires tremendous inertia during extract, which must be absorbed by the brake or permitted sufficient time to dissipate. **Every guard, side panel, and door on the machine exists to isolate energized or moving parts from personnel and must be securely in place for safe operation.**

DANGER 8: Electrocution and Electrical Burn Hazards—Contact with high voltage will electrocute or burn you. High voltage is present at the machine unless the main machine power disconnect is off.

- Do not unlock or open electric box doors.
- Do not remove guards, covers, or panels.
- Do not reach into the machine housing or frame.
- Do not service the machine unless qualified and authorized. You must clearly understand the hazards and how to avoid them.
- Know the location of the main machine disconnect and use it in an emergency to remove all electric power from the machine.

DANGER 9: Entangle and Crush Hazards—Contact with moving components normally isolated by guards, covers, and panels, can entangle and crush your limbs. These components move automatically.

- Do not remove guards, covers, or panels.
- Do not reach into the machine housing or frame.
- Do not operate a damaged or malfunctioning machine. Request authorized service.
- Do not service the machine unless qualified and authorized. You must clearly understand the hazards and how to avoid them.
- Ensure that all personnel are clear of the machine before starting it.

ii. 5. The Danger of Entrapment in a Coin Machine

DANGER 10: Entrapment Hazard—A locking cylinder door can entrap anyone who enters the cylinder. The person can be killed or seriously injured.

The door locks when a wash cycle starts.

- When a wash cycle stops correctly, the door unlocks.
- If power is lost during a wash cycle, the door latch unlocks to allow the user to open the door and retrieve the goods. Because power is required to lock the door closed, the door can be opened even if the machine does not have power.

CAUTION 11: Entangle Hazard—Contact with goods being processed can cause the goods to wrap around your body or limbs and dismember you. The goods are normally isolated by the locked cylinder door.

- The owner/employee must ensure that no user opens the door of a machine while the basket is turning.

- If power is lost and immediately restored during a wash cycle, a safety delay must expire before the door can be opened.

When power is restored and the door is closed, the machine will resume operation where it was interrupted.

In a tragic incident, a small child was placed, climbed, or was helped to climb into a front loaded coin machine and the door was then closed behind him. The door locked, the machine started running and the child was scalded to death.

The laundry owner/employee must guard against entrapping anyone in a washer-extractor by doing the following:

ii. 5.1. **Install Disconnect Switches**—The National Electric Code (article 430-112) requires a clearly marked electric disconnect switch in sight and no more than 50 feet from each machine. (Local codes may have additional requirements.) Make disconnect switches readily accessible, but not so accessible as to attract playful children.

You are urged to consult your licensed electrician and take immediate steps to comply if your installation does not now meet the National Electric Code requirement.

ii. 5.2. **Inform the Customer**—Post signs prominently in the laundry or use whatever additional effective means are available to inform the customer of the entrapment hazard, and how to minimize the hazard, including but not necessarily limited to the following:

1. that children must not be placed inside, nor be allowed to operate or play in or around any machine,
2. the location of the disconnect switch for each machine, and
3. what to do in the event of an emergency.

ii. 5.3. **Test Door Interlock and Coin Counter Operation**—Verify **daily** that the door interlock is functioning properly.

ii. 5.4. **Ensure Cycle Completion**—Make a check that the machine does not start unless the door is closed and you push the *Start* button.

— End of BIQUUS01 —

BIUUUK06 (Published) Book specs- Dates: 20090428 / 20090428 / 20090428 Lang: ENG01 Applic: QUU

iii. Contacting Milnor®

Your authorized Milnor dealer can assist you with any aspect of your Milnor machine and is familiar with local conditions that may be pertinent to its installation, use, or maintenance. Always contact your dealer first. Should you or your dealer need assistance from the Milnor factory, refer to Table 3 for contact information.

Table 3: Pellerin Milnor Corporation Contact Information

Purpose	Department	Telephone	FAX	E-mail/Website
Order, or enquire about replacement parts	Parts	504-467-2787	504-469-9777	parts@milnor.com
Obtain advice on installing, servicing, or using	Customer Service/ Technical Support	504-464-0163	504-469-9777	service@milnor.com www.milnor.com (Customer Service)
Learn about, request, or enroll in Milnor service seminars	Training	504-712-7725	504-469-9777	training@milnor.com
Determine warranty eligibility or claim status	Warranty Administration	504-712-7735	504-469-9777	service@milnor.com (Attention: Warranty)
Ask about, comment on, or report an error in equipment manuals	Technical Publications	504-712-7636	504-469-1849	techpub@milnor.com

Table 11: Heavy Soil (Timer: 36, Actual: 38:50)

Number	Step Name	Time	Temperature	Speed
1	Detergent	12:00	Warm	45
2	Drain	2:00	—	0
3	Bleach	6:00	Cold	45
4	Drain	1:30	—	0
5	Distribution	0:30	—	95
6	Extract	2:00	—	600
7	Softener	6:00	Cold	45
8	Drain	1:30	—	0
9	Distribution	0:30	—	95
10	Extract	4:00	—	1000

— End of BIQUUP01 —

Note:Time accounts by minute.

Table 8: Delicate Wash (Timer: 29, Actual: 32:00)

Number	Step Name	Time	Temperature	Speed
1	Detergent	7:00	Warm	45
2	Drain	2:00	—	0
3	Rinse	5:00	Cold	45
4	Drain	1:30	—	0
5	Distribution	0:30	—	95
6	Extract	2:00	—	600
7	Softener	5:00	Cold	45
8	Drain	1:30	—	0
9	Distribution	0:30	—	95
10	Extract	4:00	—	600

Table 9: Permanent Press (Timer: 29, Actual: 31:30)

Number	Step Name	Time	Temperature	Speed
1	Detergent	7:00	Warm	45
2	Drain	2:00	—	0
3	Rinse	5:00	Cold	45
4	Drain	1:30	—	0
5	Distribution	0:30	—	95
6	Extract	2:00	—	600
7	Softener	5:00	Cold	45
8	Drain	1:30	—	0
9	Distribution	0:30	—	95
10	Extract	4:00	—	700

Table 10: Quick Wash (Timer: 27, Actual: 30:00)

Number	Step Name	Time	Temperature	Speed
1	Detergent	6:00	Warm	45
2	Drain	2:00	—	0
3	Rinse	4:00	Cold	45
4	Drain	1:30	—	0
5	Distribution	0:30	—	95
6	Extract	2:00	—	600
7	Softener	5:00	Cold	45
8	Drain	1:30	—	0
9	Distribution	0:30	—	95
10	Extract	4:00	—	1000

Your first contact with any question should be your authorized Milnor dealer, but problems or special situations encountered in the field may require consultation with the Milnor factory. Written correspondence can be mailed to this address:

Pellerin Milnor Corporation
Post Office Box 400
Kenner, Louisiana 70063-0400
Telephone: 504-467-9591
http://www.milnor.com

— End of BIUUUK06 —

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Table 5: Hot Water Wash (Timer: 31, Actual: 34:00)

Number	Step Name	Time	Temperature	Speed (RPM)
1	Detergent	7:00	Hot	45
2	Drain	2:00	—	0
3	Bleach	6:00	Cold	45
4	Drain	1:30	—	0
5	Distribution	0:30	—	95
6	Extract	2:00	—	600
7	Softener	6:00	Cold	45
8	Drain	1:30	—	0
9	Distribution	0:30	—	95
10	Extract	4:00	—	1000

Table 6: Warm Water Wash (Timer: 31, Actual: 34:00)

Number	Step Name	Time	Temperature	Speed
1	Detergent	7:00	Warm	45
2	Drain	2:00	—	0
3	Bleach	6:00	Warm	45
4	Drain	1:30	—	0
5	Distribution	0:30	—	95
6	Extract	2:00	—	600
7	Softener	6:00	Cold	45
8	Drain	1:30	—	0
9	Distribution	0:30	—	95
10	Extract	4:00	—	1000

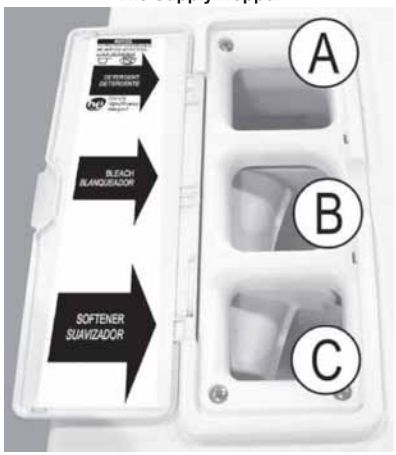
Table 7: Cold Water Wash (Timer: 29, Actual: 31:45)

Number	Step Name	Time	Temperature	Speed
1	Detergent	6:00	Cold	45
2	Drain	2:00	—	0
3	Rinse	5:00	Cold	45
4	Drain	1:30	—	0
5	Distribution	0:30	—	95
6	Extract	2:00	—	600
7	Softener	6:00	Cold	45
8	Drain	1:30	—	0
9	Distribution	0:30	—	95
10	Extract	4:00	—	1000

3.1.5. Add the Supplies

Put the necessary quantity of detergent in the pocket that is near to the rear side of the machine. If necessary, put bleach and softener in the correct pockets.

Figure 11: Add Supplies to the Machine

The Supply Hopper	Legend
	**A.** Pocket for detergent **B.** Pocket for bleach **C.** Pocket for softener

3.1.6. Push the Start Button

Push the *Start* button to start the machine.

— End of BIQUUO01 —

BIQUUP01 (Published) Book specs- Dates: 20090428 / 20090428 / 20090428 Lang: ENG01 Applic: QUU

3.2. The Seven Standard Wash Cycles

- Because the incoming water pressure and other factors influence the time required for the machine to fill, the run times stated below do not include machine fill time. For all flush, bath, and rinse step, the timer starts after the necessary water level is reached.
- The display shows 01 minutes remaining until the safety delay period expires and the controller unlocks the door latch.
- Drain and coast times can change without notice. Coast time occurs after each extract step.

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2.1.6. Model MCS10HXCR: How to Connect the Card Reader	
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2.3. How to Connect the Water Inlets and the Drain Outlet (Document BIQUUI02)	
2.3.1. Connect the Water Inlets	
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3.1.1. Put a Load in the Machine	
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Sections	Figures, Tables, and Supplements
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	Table 8: Delicate Wash (Timer: 29, Actual: 32:00)
	Table 9: Permanent Press (Timer: 29, Actual: 31:30)
	Table 10: Quick Wash (Timer: 27, Actual: 30:00)
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4.2.1.5. EF: Inverter Communication Problem	
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Chapter 3
How to Use the Machine

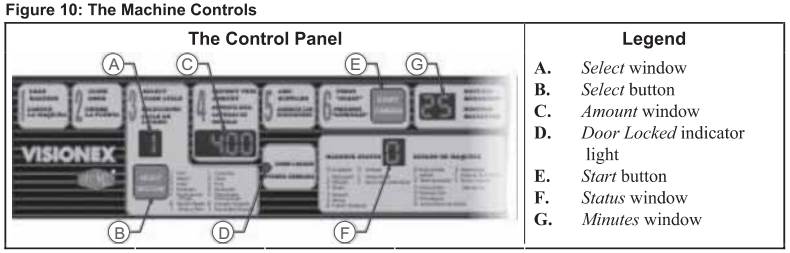
BIQUUO01 (Published) Book specs- Dates: 20090428 / 20090428 / 20090428 Lang: ENG01 Applic: QUU

3.1. How to Use the Machine for Coins (Model MCS10HXCS)

This document uses Simplified Technical English.
Learn more at http://www.asd-ste100.org.

This document tells how to use the Milnor® Visionex™ model MCS10HXCS washer-extractor. You must use coins to use this machine. Some models also let you use currency.

Figure 10: The Machine Controls



3.1.1. Put a Load in the Machine

Put a load of 22 pounds (10 kilograms) of goods in the machine. Make sure that all the items are almost the same.

3.1.2. Close the Door

Close the door. The *Status* window shows “C” if the door is **not** closed.

3.1.3. Select a Wash Cycle

Push the *Select* button to set the necessary wash cycle.

3.1.4. Put the Necessary Number of Coins in the Machine

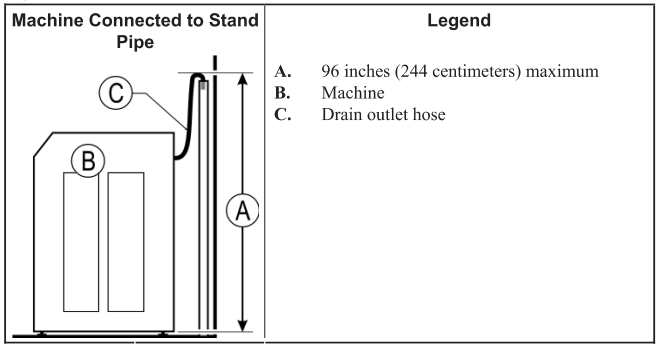
The *Amount* window shows the necessary amount to run the wash cycle. Deposit this number of coins in the coin slot.The amount needed will decrease as you put each coin in the machine.

3. Turn the hot water and cold water supply valves fully on.
4. Do a check for leaks at the machine and at the water supply valves.

2.3.2. Connect the Drain Outlet

Connect the drain outlet from the machine to the sewer system. See Figure 9.

Figure 9: Drain Outlet Connection to Stand Pipe



- You can connect the drain outlet to a sewer stand pipe. If you do this, make sure that the outlet hose will not come out of the stand pipe.
- You can connect the drain outlet to a sink or basin. If you do this, make sure that the outlet hose will not come out of the sink or basin.

— End of BIQUUI02 —

Chapter 1
How to Install the Machine

BIQUUC01 (Published) Book specs- Dates: 20090428 / 20090428 / 20090428 Lang: ENG01 Applic: QUU

1.1. Important Manager/User Data

This document uses Simplified Technical English.
Learn more at http://www.asd-ste100.org.

Do these tasks before you deploy the machine:

1. Make sure that all customers will be safe.
2. Set the machine controller for the necessary amount for each wash cycle.

1.1.1. Make Sure of the Safety of All Personnel

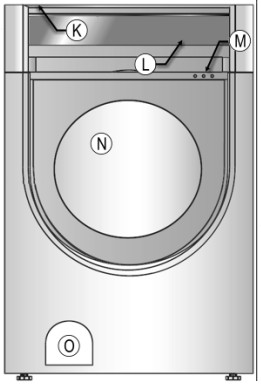
Make sure that all personnel who will use this machine read this manual before they use the machine. Make all user manuals available to the personnel who will use them. Make sure that the users obey all precautions.

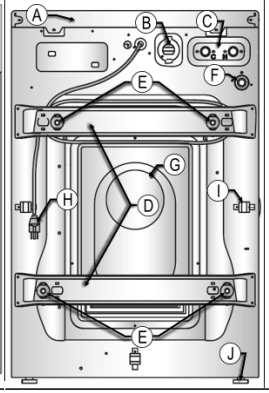
1.1.2. Use the Correct Detergent

Use only HE (high efficiency) detergents in this machine. Standard detergents can make too much suds.

1.1.3. Components and Specifications

Figure 1: The Machine Components





Legend

- **A.** Top panel of the machine
- **B.** Vent for air
- **C.** Inlets for water
- **D.** Braces
- **E.** Transportation bolts
- **F.** Connection for the drain
- **G.** Rear panel of the machine
- **H.** Plug for power
- **I.** Clip for the hoses
- **J.** Adjustable foot
- **K.** Chemical dispenser
- **L.** Control panel
- **M.** Door handle
- **N.** Door
- **O.** Cover for the filter

Table 4: Machine Specifications

Field	Value	
	English	Metric
Electrical Power	120 volts A-C, 60 Hz	
Maximum Current	10 amps	
Water Pressure	4.5 PSI to 145 PSI	30 kPa to 1000 kPa
Wash Speed	45 RPMs	
Distribution Speed	95 RPMs	
Maximum Extract Speed	1000 RPMs	
Machine Dimensions (H x D x W)	39.76 inches x 31.81 inches x 27 inches	1010mm x 808mm x 686mm
Machine Weight	243 pounds	110 kilograms
Wash Capacity	3.5 cubic feet	99 liters

— End of BIQUUC01 —

BIWUUI02 (Published) Book specs- Dates: 20090428 / 20090428 / 20090428 Lang: ENG01 Applic: QUU

1.2. About the Forces Transmitted by Washer-extractors

During washing and extracting, all washer-extractors transmit both static and dynamic (cyclic) forces to the floor, foundation, or any other supporting structure. During washing, the impact of the goods as they drop imparts forces which are quite difficult to quantify. Size for size, both rigid and flexibly-mounted machines transmit approximately the same forces during washing. During extracting, rigid machines transmit forces up to 30 times greater than equivalent flexibly-mounted models. The actual magnitude of these forces vary according to several factors:

- machine size,
- final extraction speed,
- amount, condition, and type of goods being processed,

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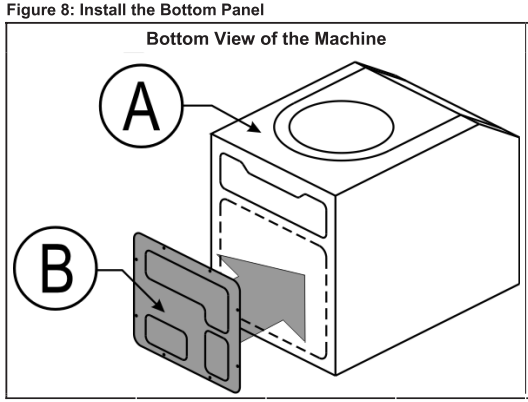
2.2. How to Install the Bottom Panel

This document uses Simplified Technical English.
Learn more at http://www.asd-ste100.org.

An optional bottom panel for the machine is included, but it is not installed. The machine will operate with less noise if you install this panel.

1. Use the machine container to prevent damage to the machine and the floor.
2. Get aid to tilt the machine rearward on the container.
3. Put the bottom panel on the machine. See Figure 8. Use the 8 screws in the accessories bag.
4. Get aid to right the machine.

Figure 8: Install the Bottom Panel



Legend

- **A.** Front of the machine
- **B.** Bottom panel

— End of BIQUUI03 —

BIQUUI02 (Published) Book specs- Dates: 20090428 / 20090428 / 20090428 Lang: ENG01 Applic: QUU

2.3. How to Connect the Water Inlets and the Drain Outlet

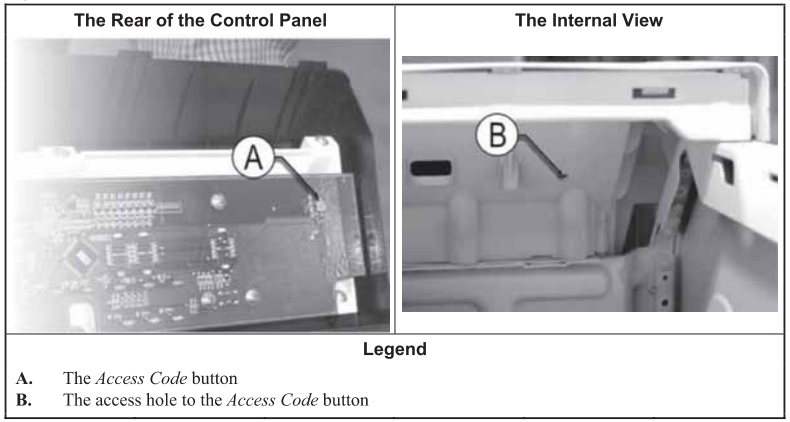
2.3.1. Connect the Water Inlets

CAUTION 21: Prevent machine damage from water valve leaks—Water leaks can cause damage. Obey these rules to prevent water leaks.

- Be careful when you connect the supply hoses to the water inlets.
- Use the supplied flexible washers when you connect the supply hoses.
- Turn the supply valve fully on to do a check for leaks.
- Use only new hoses when you install this machine. Replace hoses before they break.
- Do not make the hoses flat. Do not let the hoses get kinks.

1. Connect the new supply hoses to the water supply valves.
2. Connect the supply hoses to the water inlets on the machine.

Figure 7: The Access Code Button



2.1.4.2. How to Get at the Button from Out of the Machine

1. Turn the machine off.
2. Remove the control panel from the machine.
   a. Screws behind the bottom of the panel hold it to the machine. Remove the screws.
   b. Pull the bottom of the control panel up and away from the machine.
   c. Pull the control panel down and away from the machine.
3. Turn the machine on.
4. Push the *Access Code* button (Figure 7) for two seconds.
5. Turn the machine off.
6. Put the control panel on the machine. Attach the bottom of the control to the machine before you put the top of the panel into its position.
7. Replace the screws that hold the control panel to the machine.

2.1.5. Model MCS10HXCS: How to Connect the Coin Counter

This machine model has some bolts in the top panel and an electrical harness. Use these components to connect a meter box that contains a mechanical coin slide device or an electronic coin mechanism. You will get more instructions with the meter box. Speak to your Milnor® representative.

2.1.6. Model MCS10HXCR: How to Connect the Card Reader

This machine model has a space in the control panel for a card-reader device. Use these components to connect a meter box that contains an electronic card reader. You will get instructions with the device. Speak to your Milnor® representative.

— End of BIQUUC02 —

- the liquor level and chemical conditions in the bath preceding extraction, and
- other miscellaneous factors.

Estimates of the maximum force normally encountered are available for each model and size upon request. Floor or foundation sizes shown on any Milnor® document are only for on-grade situations based only on previous experience without implying any warranty, obligation, or responsibility on our part.

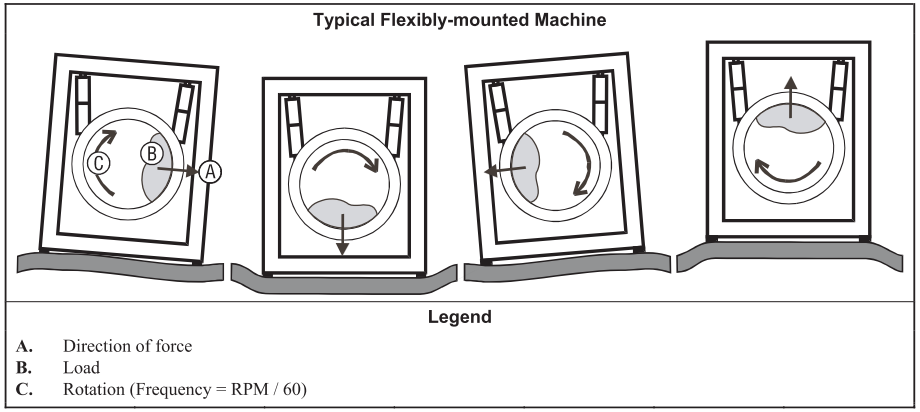
1.2.1. Foundation Considerations

Size for size, flexibly-mounted machines generally do not require as strong a floor, foundation, or other supporting structure as do rigid machines. However, a floor or other supporting structure having sufficient strength and rigidity, as described in Section 1.2.2, is nonetheless vitally important for these models as well.

1.2.2. How Strong and Rigid?

Many building codes in the U.S.A. specify that laundry floors must have a minimum live load capacity of 150 pounds per square foot (732 kilograms per square meter). However, even compliance with this or any other standard does not necessarily guarantee sufficient rigidity. In any event, it is the sole responsibility of the owner/user to assure that the floor and/or any other supporting structure exceeds not only all applicable building codes, but also that the floor and/or any other supporting structure for each washer-extractor or group of washer-extractors actually has sufficient strength and rigidity, plus a reasonable factor of safety for both, to support the weight of all the fully loaded machine(s) including the weight of the water and goods, and including the published 360-degree rotating sinusoidal RMS forces that are transmitted by the machine(s). Moreover, the floor, foundation, or other supporting structure must have sufficient rigidity (i.e., a natural or resonant frequency many times greater than the machine speed with a reasonable factor of safety); otherwise, the mentioned 360-degree rotating sinusoidal RMS forces can be multiplied and magnified many times. It is especially important to consider all potential vibration problems that might occur due to all possible combinations of forcing frequencies (rotating speeds) of the machine(s) compared to the natural frequencies of the floor and/or any other supporting structure(s). A qualified soil and/or structural engineer must be engaged for this purpose.

Figure 2: How Rotating Forces Act on the Foundation



The figure(s) above depict(s) both on-grade and above-grade installations as well as models installed directly on a floor slab or on a foundation poured integrally with the slab. Current machine data is available from Milnor® upon request. All data is subject to change without notice and may have changed since last printed. It is the sole responsibility of every potential owner to obtain written confirmation that any data furnished by Milnor® applies for the model(s) and serial number(s) of the specific machines.

— End of BIWUUI02 —

BIQUUM02 (Published) Book specs- Dates: 20090428 / 20090428 / 20090428 Lang: ENG01 Applic: QUU

1.3. Machine Requirements

This document uses Simplified Technical English.
Learn more at http://www.asd-ste100.org.

You must install the machine correctly.

WARNING 14: You must electrically ground this machine.—

- Do not change the electrical plug on the machine.
- Do a check with an electrical technician to find if the machine is correctly grounded.

1.3.1. Mechanical Requirements

1.3.1.1. Location

- You can put the machine below a shelf or in a closed or open recess. A good location will keep noise at a minimum and prevent too much machine movement.
- Do not install the machine where the temperature can go below 32 degrees Fahrenheit (0 degrees Celsius). Water that freezes in the machine can cause damage.

1.3.1.2. Floor

- The floor must be smooth and hard. Do not install the machine on carpet or other soft material.
- The floor below the machine can have a maximum slope of 1 inch across the machine.
- The floor must hold the total weight of the machine filled with water and a load. This weight is 400 pounds (180 kilograms).

1.3.1.3. Water

- Your water heater must supply hot water at a temperature of 120 degrees Fahrenheit (49 degrees Celsius).
- The inlet valves for the hot and cold water must be nearer than 4 feet (1.2 meters) from the machine.
- The minimum water pressure must be 4.5 PSI (30 kPa). The maximum water pressure must be 145 PSI (1000 kPa).

1.3.1.4. Drain

- Attach the drain hose in the drain pipe to prevent damage from water leaks.
- The maximum height of the drain pipe must be less than 96 inches (2.4 meters) from the bottom of the machine.

1. Put the correct access code into the machine. See Section 2.1.1 “How to Put the Access Code into the Machine”.
   - The *Wash Cycle* window shows the first wash cycle number.
   - The *Amount* window shows the necessary amount for the wash cycle.
   - The *Status* window and the *Minutes* window are empty.
2. Push the *Start* button to increase the necessary amount for the wash cycle. The maximum amount is 16.00. The minimum is 0.
3. Push the *Select* button to go to the subsequent wash cycle.
4. After you set the amount for wash cycle 7, push the *Select* button. The *Select* window shows “n” and the *Amount* window shows “=x” (x=1~8) if the machine is set for a coin **slide** meter box (Figure 5).
5. Push the *Start* button to change the amount per slide action.
6. Push the *Select* button.
   - To change the access code, push the *Select* button. Read Section 2.1.3 “How to Change the Access Code” now.
   - To go to the standby condition, push the *Select* button 5 times. The first 4 pushes show subsequent numbers in the access code. Push the button one more time to set the machine to the standby condition.

2.1.3. How to Change the Access Code

1. The “1” in the *Amount* window shows the first number of the access code.
2. Push the *Start* button to change the first number from “1” to a value from 0 through 9.
3. Push the *Select* button to keep this value. The display shows the second number.
4. Push the *Start* button to change the second number from “2” to a value from 0 through 9.
5. Push the *Select* button to keep this value. The display shows the third number.
6. Push the *Start* button to change the third number from “3” to a value from 0 through 9.
7. Push the *Select* button to keep this value. The display shows the fourth number.
8. Push the *Start* button to change the fourth number from “4” to a value from 0 through 9.
9. Push the *Select* button to keep this value and set the machine to the standby condition.

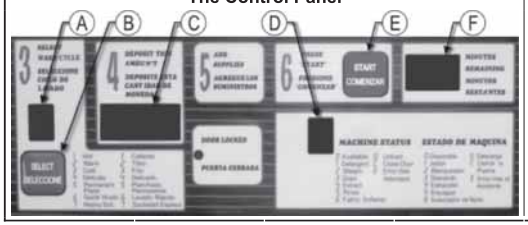
2.1.4. How to Set the Access Code to “1234”

You can get at the *Access Code* button from in the machine, or you can remove the control panel.

2.1.4.1. How to Get at the Button from in the Machine

1. Turn the machine off.
2. Remove the top panel from the machine. Two screws at the rear of the machine hold the top panel.
3. Turn the machine on.
4. Put a piece of rigid wire through the hole in the shield at the rear of the control panel (Figure 7).
5. Push the *Access Code* button for two seconds.
6. Put the top panel on the machine.
7. Replace the two screws that hold the top panel on the machine.

Figure 4: Names of the Controls

The Control Panel	Legend
	**A.** The *Select* window **B.** The *Select* button **C.** The *Amount* window **D.** The *Status* window **E.** The *Start* button **F.** The *Minutes* window

3. The first place of *Amount* window shows the first number in the access code.Push the *Start* button to change the first number.
4. Push the *Select* button to keep the number.
5. The second place of *Amount* window shows the second number in the access code. Push the *Start* button to change the second number.
6. Push the *Select* button to keep the number.
7. The third place of *Amount* window shows the third number in the access code. Push the *Start* button to change the third number.
8. Push the *Select* button to keep the number.
9. The fourth place of *Amount* window shows the fourth number in the access code. Push the *Start* button to change the fourth number.
10. Push the *Select* button to keep the number.

If the access code is correct, you can set the amount that are necessary to make the machine operate.

If the access codes do not agree, the machine goes back to the standby condition. Try again.

2.1.2. How to Set the **Amount** for a Wash Cycle

This machine can use a coin **slide** meter box (Figure 5) or a coin **slot** meter box (Figure 6).

- If your machine uses a coin **slide** meter box, the number in the *Amount* window will decrease by 0.25 for each coin in the slide. One coin equals one count.
- If your machine uses a coin **slot** meter box, the number in the *Amount* window will decrease by 0.25 for each dropped coin.

Figure 5: Coin Slide Meter Box

Figure 6: Coin Slot Meter Box

1.3.2. Electrical Requirements

- Connect this machine through an outlet with a 15 amp slow-blow fuse or breaker. Make sure that this machine is the only electrical device on this circuit.
- Ground this machine correctly to decrease the risk of an electrical shock. **Do not ground this machine to a gas pipe.**
- Connect the machine only to an electrical outlet with a ground conductor socket.
- Do not use an adapter or extension cord.
- Do not remove the ground conductor from the plug.
- Speak with an electrical technician if the correct electrical outlet is not available.

— End of BIQUUM02 —

BIQUUI01 (Published) Book specs- Dates: 20090428 / 20090428 / 20090428 Lang: ENG01 Applic: QUU

1.4. How to Remove the Transportation Bolts and Sleeves

This document uses Simplified Technical English.
Learn more at http://www.asd-ste100.org.

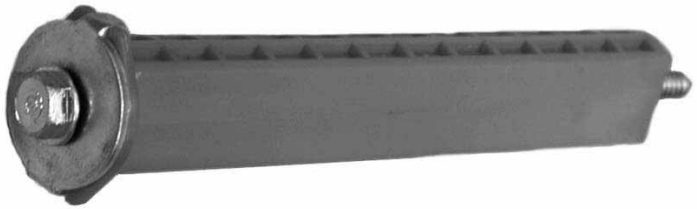
Transportation bolts through plastic sleeves prevent damage when you move the machine. Remove the bolts and sleeves before you use the machine.

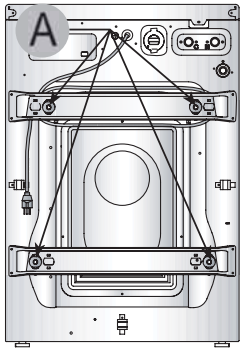
CAUTION 16: Be Careful—This machine is heavy.

- Get aid to move the machine.

Figure 3: Transportation Bolts

Bolt and Sleeve



Location (Rear View)	Legend
	**A.** Transportation bolts (4 locations)

1. Remove the lower 2 transportation bolts and sleeves. Use a wrench.
2. Turn the plastic sleeves to remove them from the braces.
3. Remove the top 2 transportation bolts and sleeves.
4. Close the holes with the supplied caps.
5. Keep the bolts and sleeves. They are necessary if you move the machine.

— End of BIQUUI01 —

Chapter 2
How to Prepare the Machine

BIQUUC02 (Published) Book specs- Dates: 20090428 / 20090428 / 20090428 Lang: ENG01 Applic: QUU

2.1. How to Set the Machine Controls

This document uses Simplified Technical English.
Learn more at http://www.asd-ste100.org.

The Milnor® MCS10H washer-extractor models have seven wash cycles. The machine controller keeps the amount you set for each cycle.

Machines in this model line can have a coin counter that accepts quarters and other coins. The *Amount* window shows the necessary amount for the wash cycle. Put a dollar coin or a bill in the machine to decrease the necessary count by four.

CAUTION 18: Electrocution and Electrical Burn Hazards—Contact with electric power can kill or seriously injure you. Electric power is present inside the cabinetry unless the main machine power disconnect is off.

CAUTION 19: Entangle and Sever Hazards—Contact with moving components normally isolated by guards, covers, and panels, can entangle and crush your limbs. These components move automatically.

2.1.1. How to Put the Access Code into the Machine

Tip: The access code is set to “1234” until you change it.

1. Turn the machine off. Disconnect the wall plug or set the circuit breaker off.
2. Push the *Select* button (Figure 4) while you turn the machine on and continue to push it for 5 seconds. This lets you put the access code into the machine.